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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DEAN, JR, JOSEPH E

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,670	Applicant(s) CHEN ET AL.
	Examiner JOSEPH DEAN, JR	Art Unit 2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2011.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 12-19 is/are allowed.
6) ☒ Claim(s) 20-22 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to remarks and amendment filed 06/02/2011.
2. Applicant amended claims 12, 20 and 21.
3. Status of claims:

Claims 20-22 are pending in this application.

Allowable Subject Matter

4. Claims 12-19 are allowed over prior art.

The following statement of reasons for the indication of allowable subject matter:

It's interpreted, the prior art of record either singularly or in proper combination fails to teach learning, at the terminal radio station, about the requirement for the path information that was initiated at the radio access point, said terminal radio station located outside of direct radio transmission range of the radio access point.

Response to Arguments

5. Applicant's arguments filed 06/02/2011 have been fully considered but they are not persuasive. The rejection of Cromer et al. (US20030156558) addresses claimed language, therefore claims 22 will remain rejected as described below.

6. Applicant argues in claim 20, 21 and 22, that Cromer does not teach storing a path between said first radio station and radio access point, where a path is of at least one of the second radio stations and data transferred from first radio station to the

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access point and from the radio access point to the first radio station via a path and receiving and processing failure information about presence of failure of the stored path and storing path prior to processing failure information.

7. In response, it's interpreted storing a path between said first radio station and radio access point, where a path is of at least one of the second radio stations and data transferred from first radio station to the access point and from the radio access point to the first radio station via a path, Cromer discloses in abstract, paragraph 0058 and 0064, paragraph 0058, since the other MU 42 receiving the remote access request frames from MU 30 in not associated with AP, it rebroadcast the remote access request frames, to which it has added its own MAC address, this rebroadcast is received by two MU44 and 46 each is attached to an AP48. Then each of MU 44 and 46 adds mac address to the request frames and forwards them to the AP48, therefore data is stored between MU22 and a access point via MU 44 and MU46 and transferred to the AP, see abstract where forming a path that is transmitted in both directions from MU to AP and from AP to MU. Also applicant indicates that Cromer does not teach receiving and processing failure information about presence of failure of the stored path and storing path prior to processing failure information. Cromer discloses in paragraph 0077, how it deals with receiving and processing failure, paths are stored within 103 structure, when a problem is detected, the path stored within first data structure tries to fix the problem by identifying another stored paths available first, if no paths exist then the system return to subroutine 124 to find new available paths.

Claim Rejections - 35 USC § 102

8. Claims 22 is rejected under 35 U.S.C. 102(a) as being anticipated by Cromer et al. (US20030156558) (hereinafter Cromer).

Per claim 22, Cromer discloses a non-transitory computer readable medium storing instructions that when executed control at least one processor in a first radio station to perform a method comprising (see paragraph 0070 for computer readable medium storing instructions): a first radio station for a radio the radio communication system formed of a radio access point and at least one second radio station in addition to the first radio station, the first radio station comprising: means for storing a path between said first radio station and the radio access point (paragraph 0064), where the path is formed of at least one of the second radio stations and is used for transferring information from said first radio station to the radio access point and from the radio access point to said first radio station via the path (paragraphs 0058 and 0064); means for sending test data for the radio access point to determine whether a failure of the path exists (paragraphs 0076 and 0077); means for receiving and processing failure information about presence of a failure of the stored path (paragraph 0064,0077, **i.e. mobile unit has processor which processes information as well as RAM and ROM functions**), said storing of the path being prior to the processing failure information (paragraph 0077, **i.e. paths are stored within data structure if no paths are available, start to build new path structures, examiner does not see by adding this amendment where the claim is distinguished over the prior art**); and means for initiating a method to determine a new path between said first radio station and the

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radio access point following reception of the failure information (paragraph 0077, Fig 5, **i.e. method of switching to previously stored path, when no path stored, system starts to search for new path by building data structures until AP is in range, therefore options are given to determine or initiate a method to determine path if failure occurs.**

Claim Rejections - 35 USC § 103

9. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cromer et al (US20030156558) (hereinafter Cromer), and further in view of Larsen (US20010036810).

Per claim 20, **Cromer** discloses a first radio station for a radio communication system, the radio communication system comprising a radio access point and at least one second radio station in addition to the first radio station, the first radio station comprising: means for receiving a notification that the radio access point initiated a requirement for information about a path, the path formed of at least one of the second radio stations that can be used for a message transfer between the radio access point and said first radio station (paragraph 0058, i.e. also it is well known in the art when a mobile is turned on it receives messages from a access point) ; **Larson** provides means for providing, path information about a path formed of at least one further radio station of a plurality of radio stations usable for a message transfer between the radio access point and the first radio station, to the radio access point responsive to a requirement from the radio access point prior to the message transfer (paragraph 0171-0179); means for initiating a method for determining a path between said first radio

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station and the radio access point following reception of the notification that the radio access point initiated the requirement for information, where the path is determined responsive to the requirement prior to the message transfer (paragraph 0183-0185 and 0188-0190, **i.e. initiating a path from MSa to MSb**).

Therefore, one skilled in the art would have found it obvious from the combined teachings of Cromer which provides packet transfer between mobile unit outside AP range, where notifications are broadcast from mobile units inside of range of the AP, to mobile unit outside the range where data can be sent to the AP from non-associated mobile units and Larsen provides relaying data between mobile stations and base stations by utilizing probe data to gather information of best routes for accessibility as a whole to produce the invention as claimed with a reasonable expectation of determining best route to the base station by reviewing gradient table and broadcasting notifications through intermediate mobile units .

Per claim 21, Cromer discloses a first radio station for a radio the radio communication system formed of a radio access point and at least one second radio station in addition to the first radio station, the first radio station comprising: means for storing a path between said first radio station and the radio access point (paragraph 0064), where the path is formed of at least one of the second radio stations and is used for transferring information from said first radio station to the radio access point and from the radio access point to said first radio station via the path (paragraphs 0058 and 0064); means for sending test data for the radio access point to determine whether a failure of the path exists (paragraphs 0076 and 0077); means for receiving and

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processing failure information about presence of a failure of the stored path (paragraph 0064,0077, **i.e. mobile unit has processor which processes information as well as RAM and ROM functions**), said storing of the path being prior to the processing failure information (paragraph 0077, **i.e. paths are stored within data structure if no paths are available, start to build new path structures, examiner does not see by adding this amendment where the claim is distinguished over the prior art**); and means for initiating a method to determine a new path between said first radio station and the radio access point following reception of the failure information (paragraph 0077, Fig 5, **i.e. method of switching to previously stored path, when no path stored, system starts to search for new path by building data structures until AP is in range, therefore options are given to determine or initiate a method to determine path if failure occurs.**

Larson discloses provides means for providing, path information about a path formed of at least one further radio station of a plurality of radio stations usable for a message transfer between the radio access point and the first radio station, to the radio access point responsive to a requirement from the radio access point prior to the message transfer (paragraph 0171-0179).

Therefore, one skilled in the art would have found it obvious from the combined teachings of Cromer which provides packet transfer between mobile unit outside AP range, where notifications are broadcast from mobile units inside of range of the AP, to mobile unit outside the range where data can be sent to the AP from non-associated mobile units and Larsen provides relaying data between mobile stations and base

stations by utilizing probe data to gather information of best routes for accessibility as a whole to produce the invention as claimed with a reasonable expectation of ensuring if problem is detected in path, determining next route stored or finding new path.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH DEAN, JR whose telephone number is (571)270-7116. The examiner can normally be reached on Monday through Friday 7:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 571-272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dwayne Bost/
Supervisory Patent Examiner,
Art Unit 2617

/JOSEPH DEAN, JR/
Examiner, Art Unit 2617